Amendment to the claims

This listing of the claims replaces all prior versions and listings of the claims in the application:

1. (Amended) A spread spectrum radio frequency communication system comprising:

an exciter to provide a plurality of carrier signals grouped into a plurality of subbands, each one of the plurality of subbands including two or more adjacent carriers;

a Forward Error Correction (FEC) encoder to encode digital data to provide a plurality of symbol blocks, each one of the plurality of symbol blocks having a plurality of symbols;

an interleaver to map each symbol of one of the plurality of symbol blocks into a different one of the plurality of subbands;

a Walsh subband encoder to encode each symbol within each one of the plurality of subbands; and

an Inverse Fast Fourier Transform (IFFT) to perform an inverse fast Fourier transform operation on each one of the subband symbols.

2. (Previously presented) The communication system as recited in Claim 1 wherein the FEC encoder uses a Reed Solomon FEC code.

3. (Previously presented) The communication system as recited in Claim 1 wherein the FEC encoder uses a Turbo Code FEC code.

4. (Previously presented) The communication system as recited in Claim 1 wherein the FEC encoder uses a convolution FEC code.

5. (Previously presented) The communication system as recited in Claim 1 comprising a transmission security device to encrypt each one of the Walsh encoded symbol sets.

6-9. (Canceled)

10. (Amended) A method of providing a spread spectrum radio frequency communication signal comprising the steps of:

forming a stream of data into a plurality of data packets;

embedding each data packet into a physical layer packet comprising the steps of adding a packet header, performing a cyclic redundancy check and encoding the data;

the encoding the data step comprising the steps of:

encoding baseband data with a Reed Solomon forward error correction algorithm to provide symbol blocks, each symbol block having a plurality of symbols; and

interleaving each symbol of one of the symbol blocks across a plurality of coherent subbands, each one of the plurality of coherent subbands including two or more adjacent carriers, wherein each symbol from each one of the symbol blocks is mapped to a different one of the plurality of coherent subbands;

subband-encoding each coherent subband with a low rate Walsh code; and

performing an inverse fast Fourier transform operation on each one of the subband symbols.

11. (Canceled)

12. (Previously presented) The system as recited in claim 13 further comprising:

a transmission security device, coupled to the Inverse Fast Fourier Transform, to encrypt each one of the Walsh encoded symbol groups.

13. (Amended) A spread spectrum radio frequency communication system comprising:

a Forward Error Correction (FEC) encoder to encode digital data to provide a plurality of symbol groups, each one of the plurality of symbol groups have a plurality of symbols, the FEC encoder using a Reed Solomon FEC code;

an interleaver to map each one of the plurality of symbols from each one of the plurality of symbol groups into a corresponding different one of a plurality of coherent subbands, each one of the plurality of coherent subbands including two or more adjacent carriers;

a Walsh subband-encoder to encode each one of the plurality of frequency subbands;

a subband filter to excise a frequency subband to prevent co-site interference with another radio system; and

an Inverse Fast Fourier Transform (IFFT) to perform an inverse fast Fourier transform operation on each one of the plurality of subband symbols.

14. (Original) The system as recited in claim 13 further comprising a corresponding receiver having a subband filter to excise the corresponding frequency subband as in the transmitter.

15. (Original) The system as recited in claim 14 wherein both the transmitter and receiver perform different subband mapping that avoids mapping symbols into excised subbands.